REMARKS

Claims 1-7 and 19-29 remain in the application for consideration with Claims 8-18 standing canceled.

Reconsideration and withdrawal of the outstanding rejections and objections are respectfully requested in light of the above amendments and following remarks.

The disclosure was objected to because of informalities.

By the instant amendment, the specification has been amended to take into consideration the helpful comments of the Examiner.

It is respectfully submitted that the disclosure is now free from informalities.

Claim 1 was objected to because of informalities.

By the instant amendment, Claim 1 has been amended to take into consideration the helpful comments of the Examiner.

It is respectfully submitted that Claim 1 is free from informalities.

Claims 1, and 19-29 have been amended to clarify the invention.

Turning now to the art rejections, Claims 1, 2, 4, 7, 9, 10, 12, 14, 17, 18, 22, 25, 26, and 28 were rejected under 35 U.S.C. §102(e) as being anticipated by Reed '658; Claims 3, 11, and 26 were rejected under 35 U.S.C. §103 as being unpatentable over Reed '658 in view of Reed '248; Claims 8, 13, 19-21, and 27 were rejected under 35 U.S.C. §103 as being unpatentable over Reed '658 in view of Zook; and Claims 5, 6, 15, 16, 23, and 24 were rejected under 35 U.S.C. §103 as being unpatentable over Reed '658.

These rejections are respectively traversed.

It is respectfully submitted that Reed '658 does not disclose or suggest the presently claimed invention including the step of whitening the recovered data output signal prior to the filtering but within the post-processing method, within a whitening filter in independent Claim 8 and the whitening filter connected to receive the error signal to produce an input signal to the threshold circuit in independent Claim 19.

Reed '658 does not disclose white filtering.

Reed '248 does not disclose or suggest the presently claimed invention including the whitening filter connected to receive the error signal to produce an input signal to the threshold circuit as defined in the various forms of independent Claims 1 and 19.

Reed '248 does not disclose a whitening filter.

Zook does not disclose or suggest the presently claimed invention including the whitening filter connected to receive the error signal to produce an input signal to the threshold circuit as defined in the various forms in independent Claims 1 and 19.

Zook discloses that the whitening filter is positioned at the output of the analog receive filter 61 and the discrete equalizer filter 74 of Figure 3. These are not within the post-processor 95.

It is respectfully submitted that the presently claimed invention is patentably distinct over the applied references.

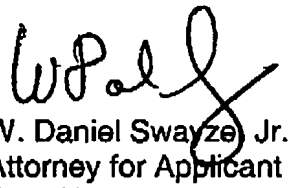
In light of the above, it is respectfully submitted that the present application is in condition for allowance, and notice to that effect is respectfully requested.

While it is believed that the instant response places the application in condition for allowance, should the Examiner have any further comments or suggestions, it is respectfully requested that the Examiner contact the undersigned in order to expeditiously resolve any outstanding issues.

Attached hereto is a marked-up version of the changes made to the claims by the current amendment. The attached page is captioned "VERSION WITH MARKINGS TO SHOW CHANGES MADE."

To the extent necessary, Applicant petitions for an Extension of Time under 37 CFR 1.136. Please charge any fees in connection with the filing of this paper, including extension of time fees, to the deposit account of Texas Instruments Incorporated, Account No. 20-0668.

Respectfully submitted,



W. Daniel Swayze, Jr.
Attorney for Applicant
Reg. No. 34,478

Texas Instruments Incorporated
P.O. Box 655474, MS 3999
Dallas, TX 75265
(972) 917-5633

VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the specification:

Paragraph beginning at line 23 of page 1 has been amended as follows:

Unfortunately, significant errors still occur in data detection. For example, using EPR4 techniques, a bit error rate (BER) of about 10^{-5} typically occurs. However, it has been observed that if the signal to noise ratio in a system could be ~~reduced~~ increased by, for example, 1dB, the bit error rate can be improved to 10^{-6}, representing an order of magnitude improvement. Thus, even small improvements in the signal-to-noise ratio results in large improvements in the bit error rate using EPR4 detection techniques. This is significant since presently the requirements exist for the provision of circuits that have a bit error rate less than 10^{-7}, and it is expected that this requirement will continue to become more stringent.

In the claims:

Claims 8-18 have been canceled.

Claims 1, 19, and 22-29 have been amended as follows:

1. A post-processing method for use in a sampled data read channel of a mass data storage device that has a Viterbi detector that receives actual sampled partial response target data from a ~~said~~ data medium of a said mass data storage device and produces a recovered data output signal, comprising:

filtering ~~an~~ a recovered partial response target signal derived from said recovered data output signal and sampled partial response target data to produce a filtered output signal;

providing a threshold circuit to provide a threshold against which said filtered output signal is compared;

generating an error event pattern indicating signal when a predetermined error event pattern occurs in said recovered data output signal;

~~and~~ modifying the recovered data output signal when said filtered output signal exceeds the threshold of said threshold circuit and said error event indicating signal is generated, and

whitening the recovered data output signal, prior to said filtering but within said port processing method, with a whitening filter.

19. A post-processor circuit for use in a sampled data read channel of a mass data storage device, comprising:

a Viterbi detector that receives an actual sampled partial response target signal from a storage medium of said mass data storage device to produce a recovered data output signal;

an error pattern detector to generate an error pattern event indicating signal if a predetermined error event pattern occurs in said sampled partial response target signal;

a circuit for generating an error signal based upon a difference between said recovered data output signal and a delayed said actual sampled partial response target signal;

a threshold circuit to generate an error correction control signal if a magnitude of said error signal exceeds a predetermined threshold;

an error correction circuit to modify the recovered data output signal when said error correction control signal and said error event pattern indicating occurrence signal are generated, and

~~The circuit of Claim 18 further comprising~~ a whitening filter connected to receive said error signal to produce an input signal to said threshold circuit.

22. The circuit of Claim ~~18~~ 19 wherein said predetermined error pattern event is ex = ±{1}.

23. The circuit of Claim ~~18~~ 19 wherein said predetermined error pattern event is ex = ±{1-11}.

24. The circuit of Claim ~~18~~ 19 wherein said predetermined error pattern event is ex = ±{1-1}.

25. The circuit of Claim ~~18~~ 19 wherein said circuit for generating an error signal is an FIR filter.

26. The circuit of Claim ~~18~~ 19 wherein said circuit for generating an error signal is an error pattern matched filter.

27. The circuit of Claim ~~18~~ 19 wherein said circuit for generating an error signal comprises a whitening noise generator and an FIR filter connected to receive an output of said whitening noise generator.

28. The circuit of Claim ~~18~~ 19 wherein said Viterbi detector has a partial response level of at least EPR4.

29. The circuit of Claim ~~18~~ 19 wherein said Viterbi detector has a partial response level of at least EEPR4.